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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,161

09/26/2006

Tomohiro Murakoso

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7590

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RATNERPRESTIA

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VALLEY FORGE, PA 19482

EXAMINER

BREVAL, ELMITO

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,161	<b>Applicant(s)</b> MURAKOSO ET AL.	
	<b>Examiner</b> ELMITO BREVAL	<b>Art Unit</b> 2889	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 1,3 and 10-12 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 11-12 is/are allowed.
- 7) ☒ Claim(s) 1 and 3 is/are rejected.
- 8) ☒ Claim(s) 10 is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                          |

### DETAILED ACTION

The amendment filed on 06/23/2011 has been entered.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 10-11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (JP: 2003-308783) of record in view of Nunomura (US. Pat: 6,479,932 B1) of record in further view of Kim et al., (US. Pub: 2005/0067964 A1) of record.

**Regarding claim 1**, Uchida ('783) teaches (in at least figs. 1, 2, and 6; also see the applicant provided English translation of the foreign reference) a plasma display panel driven by plurality of subfields forming one field, the subfields comprising: a writhing period during which writhing discharging occurs in discharge cells to be displayed; and a sustain period during which sustain discharging occurs in the

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discharge cells in which the writing discharging occurs during the writing period, the plasma display panel comprising: a first substrate (5; i.e. the front substrate), a plurality of pairs of scanning electrodes (2a) and sustaining electrodes (2b) arrayed oppositely and parallel in one direction, and a back substrate (6; i.e. the second substrate) with a plurality of back electrodes (1A; i.e. the data electrodes) arrayed in the other direction perpendicular to the scanning electrodes, with barrier ribs (7) in between to form discharge spaces; wherein the plurality of back electrodes (1a; i.e. the data electrodes) entering the discharge spaces at an entry side on a data driver extend with an electrode width constantly wide from the entry side (i.e. the peripheral portion) and constantly narrow from the middle to the end side, wherein respective ones of the discharge cells include a phosphor operable to emit a blue color ([0023]), a phosphor operable to emit a red color ([0023]), or a phosphor operable to emit a green color ([0023]), but silent about the plural data electrodes including a middle portion having a first constant width, opposite end portions having a second constant width, and respective tapered portions extending from the middle portion to each of the end portions; and the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the blue color are wider than the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the red color.

Nunomura ('932) in the same field of endeavor teaches (in at least figs. 16-17 and 20-21) a plasma display panel comprised of, in part, at least one data electrode (16) wherein the data electrode including a middle portion having a first constant width

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(34), opposite end portions having a second constant width (33), and respective tapered portions extending from the middle portion to each of the end portions for the purpose of improving the stability of the address discharge to the discharge cells, wherein the second constant width is greater than the first constant width by a factor of more than 1 and not more than 1.5 (col. 10, lines 55-62; a factor of 1.5), but silent about the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the blue color are wider than the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the red color.

Kim ('964) teaches (in at least fig. 6) a plasma display panel comprised of, in part, data electrodes (522, 562, 523, 563, 521 and 561) wherein opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the blue color (550B) are wider than the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the red color (550R) for the purpose of providing a plasma display panel with improved discharge stability.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data electrodes structures of Nunomura and Kim in the device of Uchida for the purpose of improving the effects of the write performance.

**Regarding claim 3**, Uchida ('783) teaches (in at least figs. 1 and 2) the back electrodes (1A; i.e. the data electrodes) increases in width continuously from the central portion of the second (6) toward the peripheral portion of the second substrate.

**Regarding claim 10**, Uchida ('783) as modified by Numomura ('932) and Kim ('964) teaches all the claimed limitations except for the second constant width is not more than a half of a spacing between adjacent two barrier ribs.

However, as can be seen (in at least fig. 16 of Numomura) the second constant width (33) appears to be about half of the distance between adjacent barrier ribs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the second constant width not more than a half of the spacing between adjacent two barrier ribs through routine experimentation and optimization, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See MPEP 2144.04 [R-6].

**Regarding claim 11**, Uchida ('783) teaches (in at least figs. 1, 2, and 6; also see the applicant provided English translation of the foreign reference) a plasma display panel driven by plurality of subfields forming one field, the subfields comprising: a writhing period during which writhing discharging occurs in discharge cells to be displayed; and a sustain period during which sustain discharging occurs in the discharge cells in which the writing discharging occurs during the writing period, the plasma display panel comprising: a first substrate (5; i.e. the front substrate), a plurality of pairs of scanning electrodes (2a) and sustaining electrodes (2b) arrayed oppositely and parallel in one direction, and a back substrate (6; i.e. the second substrate) with a

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plurality of back electrodes (1A; i.e. the data electrodes) arrayed in the other direction perpendicular to the scanning electrodes, with barrier ribs (7) in between to form discharge spaces; wherein the plurality of back electrodes (1a; i.e. the data electrodes) entering the discharge spaces at an entry side on a data driver extend with an electrode width constantly wide from the entry side (i.e. the peripheral portion) and constantly narrow from the middle to the end side, wherein respective ones of the discharge cells include a phosphor operable to emit a blue color ([0023]), a phosphor operable to emit a red color ([0023]), or a phosphor operable to emit a green color ([0023]), but silent about the plural data electrodes including a middle portion having a first constant width, opposite end portions having a second constant width, and respective tapered portions extending from the middle portion to each of the end portions; and the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the blue color are wider than the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the red color and the second constant width is not more than a half of a spacing between adjacent two barrier ribs.

Nunomura ('932) in the same field of endeavor teaches (in at least figs. 16-17 and 20-21) a plasma display panel comprised of, in part, at least one data electrode (16) wherein the data electrode including a middle portion having a first constant width (34), opposite end portions having a second constant width (33), and respective tapered portions extending from the middle portion to each of the end portions for the purpose of improving the stability of the address discharge to the discharge cells, wherein the

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second constant width is greater than the first constant width by a factor of more than 1 and not more than 1.5 (col. 10, lines 55-62; a factor of 1.5), but silent about the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the blue color are wider than the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the red color, the second constant width is not more than a half of a spacing between adjacent two barrier ribs.

Kim ('964) teaches (in at least fig. 6) a plasma display panel comprised of, in part, data electrodes (522, 562, 523, 563, 521 and 561) wherein opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the blue color (550B) are wider than the opposite end portions of the data electrode corresponding to the respective one of the discharge cells including the phosphor operable to emit the red color (550R) for the purpose of providing a plasma display panel with improved discharge stability, but silent about the second constant width is not more than a half of a spacing between adjacent two barrier ribs.

However, as can be seen (in at least fig. 16 of Numomura) the second constant width (33) appears to be about half of the distance between adjacent barrier ribs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the second constant width not more than a half of the spacing between adjacent two barrier ribs through routine experimentation and optimization, since it has



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been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See MPEP 2144.04 [R-6].

**Regarding claim 12**, Uchida ('783) as modified by Numomura ('932) and Kim ('964) teaches all the claimed limitations except for the second constant width is not more than a half of a spacing between adjacent two barrier ribs.

However, as can be seen (in at least fig. 16 of Numomura) the second constant width (33) appears to be about half of the distance between adjacent barrier ribs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the second constant width not more than a half of the spacing between adjacent two barrier ribs through routine experimentation and optimization, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See MPEP 2144.04 [R-6].

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3 and 10-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMITO BREVAL whose telephone number is (571)270-3099. The examiner can normally be reached on M-F (8:30 AM-5:00 Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Toan Ton can be reached on (571)-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karabi Guharay/  
Primary Examiner, Art Unit 2889

September 13, 2011  
/Elmito Breval/  
Examiner, Art Unit 2889